C2 Topic 8 Acids, bases and salts

Bases and alkalis	
1. What are metal oxides and metal hydroxides known as?	Bases
2. What does ammonia produce when dissolved in water?	An alkaline solution
3. What is aqueous ammonia used to produce?	Ammonium salts
4. What are ammonium salts used for?	Producing fertiliser
Neutralisation and salts	
5. What does a reaction between an acid and alkali / base produce?	A salt and water (and sometimes carbon dioxide)
6. What type of reaction produces a salt and water?	Neutralisation
7. What affects the salt produced in this reaction?	The acid used and the metal in the base or alkali
8. What effect do H^+ ions have in solution?	They make the solution acidic
9. What effect do OH^- ions have in solution?	They make the solution alkaline
10. What does the pH scale measure?	The acidity or alkalinity of a solution
11. What happens during neutralisation reactions in terms of hydrogen and hydroxide ions?	They react together to produce water: $H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$
Soluble salts	
12. What does the state symbol (s) represent?	Solid
13. What does the state symbol (l) represent?	Liquid
14. What does the state symbol (g) represent?	Gas
15. What does the state symbol (aq) represent?	Aqueous
16. Describe how soluble salts are formed from reacting with metals	An acid is reacted with a metal but not all metals are suitable; some are too reactive and others are not reactive enough
17. Describe how soluble salts are formed from reacting with insoluble bases	A base is added to the acid until no more will react and the excess solid is filtered off
18. Describe how soluble salts are formed from reacting with alkalis	An acid is reacted with an alkali, an indicator can be used to show when the acid and alkali have completely reacted to produce a salt solution.
19. What is crystallisation?	A process to form a solid salt from a salt solution

Insoluble salts	
20. How are insoluble salts formed?	By mixing appropriate solutions of ions so that a precipitate is formed.
21. How are insoluble salts used?	To remove unwanted ions from solution, for example in treating water (or effluent)